



The HERD and the BIRD

How an innovative federal program is conserving sage-grouse by helping ranchers improve their cattle-grazing practices.

By John Grassy

INCOMING A male sage-grouse, sometimes called a “bomber, flies over a grazed pasture in eastern Montana.

In 2012, Bret and Kim Lesh were trying to solve water problems on a new 9,000-acre addition to their Cross W Ranch. Like all ranches in eastern Montana’s Carter County, their business was subject to the yearly calculus of snow, rain, temperature, and wind. In the spring of a good year, native plants like western wheatgrass, blue grama, and buffalograss thrive amid the blue-gray sagebrush. Snowmelt and rain fill small reservoirs and excavated pits that serve as water sources for cattle, which grow fat on the dense stands of native vegetation. Mule deer, pronghorn, prairie songbirds, and other native wildlife also thrive on the lush plant growth. But that’s in a good year, maybe three years out of five. The Leshes needed to figure out how to keep the cattle on their new property fed and watered during the other two.

Bret Lesh visited the USDA Natural Resources Conservation Service (NRCS) office in Ekalaka that spring seeking help from Rebecca Knapp, the NRCS district conservationist. To his surprise, she said the solution to his water dilemma might lie, in a roundabout way, with the greater sage-grouse.

PRESERVING STRONGHOLDS

Lesh was familiar with sage-grouse. Like other Carter County ranchers, he sees the big prairie birds most days. Yet across much of the species’ historic western range, populations are declining. As numbers dropped to worrisome lows in Nevada and Utah, scientists documented the species’ remaining strongholds in parts of Montana and Wyoming. In a federal sage-grouse management plan, southern Carter County—“Core Area 13” in bureaucratic-speak—was identified as containing some of the nation’s healthiest populations and habitats.

Knapp told Lesh about an NRCS program launched the previous year in response to sage-grouse declines across

NOPIADOL PAOTHONG



TIGHT TEAM Ranchers Kim and Bret Lesh with NRCS district conservationist Rebecca Knapp at the Leshes' Cross W Ranch in Ekalaka.

the West. The national Sage-Grouse Initiative (SGI) is an incentive program for private landowners who commit to improving grouse habitat on their property and changing grazing management to benefit the birds. The initiative is the largest—though by no means the only—sage-grouse conservation effort in Montana and across the West (see “Cooperation is key” on page 15).

If the Leshes were willing to carry out a conservation plan that benefited both livestock and sage-grouse, Knapp said, the SGI could provide federal funding to help both the cattle and the native birds on the ranch.

WHERE'S THE WATER?

In Carter County, as in so much of the West, finding a reliable source of clean water for cattle is a challenge as old as ranching itself. The aquifer beneath most of Core Area 13 is 1,700 to 3,000 feet belowground. With drilling costs of roughly \$30 per foot,

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installing new wells is an expenditure most stockgrowers can't afford.

Early ranchers dug shallow pits to capture snowmelt and rain. With several pits across their properties, ranchers could usually collect enough water to get their herds through most summers. The system still works in years of decent precipitation. But during dry, hot years—those two out of five—smaller pits and reservoirs evaporate. Ranchers often end up with just one or two places to water cattle until fall and must move cows to pastures near these sites. The stationary herds start eating the forage and, over several weeks or longer, graze it down to dirt.

Lesh owned a few wells, and he told Knapp he wanted to use water from one to stock additional tanks via a network of pipelines. The tanks would be installed across the new 9,000-acre property to give each pasture its own source of fresh water. With these improvements, he could move cattle from pasture to pasture. This would allow native forage time to recover from grazing before being grazed again.

That's where the sage-grouse come in.

TAKE ONLY HALF

Though too much grazing can harm native plants and wildlife, some grazing can actually help. Grasses and forbs adapted over thousands of years to herds of bison trimming their tops. If not grazed at all, plants become choked out by the thatch of their own leaves left from previous years. The rule of thumb many Montana ranchers use to manage grazing in a way that sustains this historical ecological process while keeping cattle fed is to “take half and leave half.”

“Studies show that grasses in this area make twice as many leaves as they need because they ‘know’ that something is going to eat some of their leaves,” says Kami Kilwine, NRCS rangeland management specialist in Miles City. “Plants are quick to recover from grazing when half or fewer of their leaves are removed.”

When new grass emerges on the Leshes' rangeland in May, the bright green growth is partially obscured by a foot-high cover of dry, tan residual grass. This is the portion of last year's crop that went ungrazed, and it can be essential for sage-grouse survival.



SHARING SPACE Sage-grouse hens look for insects near a grazing bull, showing how the two species can coexist in healthy range.

Early each spring, male and female sage-grouse gather in open areas called leks to conduct a mating ritual. To attract females, males strut while inflating and deflating their yellow, eggplant-size air sacs to produce a loud burbling sound that can be heard miles away.

After mating, the hens disperse one to four miles from the breeding leks to nest. Residual standing grass provides warm areas during chilly spring weather where hens can sit and incubate their eggs. It hides adult grouse and chicks from golden eagles and other predators. The leftover vegetation also produces lots of insects, a key food for rapidly developing chicks.

In 2009 Melissa Foster, a Montana Fish, Wildlife & Parks wildlife biologist, led a four-year study of sage-grouse in Core Area 13. Researchers captured 94 hens, fitted them with radio collars, and logged their movements throughout the year. The

study aimed to document the effects of grazing on the birds' nesting success. It's one of several FWP research projects conducted in cooperation with NRCS to evaluate the potential costs and benefits to sage-grouse of various land management recommendations made by the SGI.

An initial hypothesis for the Core Area 13 study was that sage-grouse would have lower nesting success rates in pastures with cows than in pastures without. But in Foster's study, nesting success was actually higher in pastures with active grazing than in pastures lacking livestock (59 percent compared to 38 percent). “It was just one study,” the biologist says, “but it shows that, at least in some cases, livestock grazing can definitely be compatible with sage-grouse conservation.”

The reasons for the differences in that study aren't known. One theory is that grouse predators avoid areas with cows. Regardless

of why, the study adds to the results of other research that seems to indicate a beneficial relationship between cattle and sage-grouse. Researchers have found that sustainable rangeland management practices, like leaving residual cover and rotating grazing to reinvigorate native plant growth, can benefit livestock while maintaining the habitat that wildlife, including sage-grouse, require.

In other words, what's good for the herd can be good for the bird.

HABITAT MAPS

Using funds from the federal Farm Bill, the SGI shares costs with participating ranchers for new fencing and water sources to graze cattle more sustainably. “Many ranchers want to improve their grazing systems. But they usually don't have ready cash to pay for wells and to pipe water across the landscape, which is necessary to move cows around more,” Knapp says.

As Knapp's team developed a sage-grouse conservation plan with the Leshes for the Cross W Ranch, they used data from Foster's study, which mapped the different habitat

“Over and over I hear ranchers say they've got to leave some grass. It's a wonderful ethic.”

PHOTOS: ELIZA WILEY



ALL THE ELEMENTS Left: Melissa Foster, FWP wildlife biologist in Baker, led a four-year study showing which habitats sage-grouse use throughout the year. The study helped guide a grazing conservation plan the Leshes are now using on their ranch to conserve the prairie birds. Top left: Recently hatched sage-grouse chicks can hide from predators beneath sagebrush and residual standing grass. Top right: Insect-rich mesic (wet) areas like this one running through the Cross W Ranch in Carter County are essential summer habitat for rapidly growing sage-grouse chicks. Right: The federal Sage-Grouse Initiative shared costs with the Lesh family to install pipeline and watering tanks to keep cattle away from sensitive mesic areas and prevent them from overgrazing range.



types that sage-grouse use throughout the year. “Those results were essential in helping us figure out where fencing should go to protect critical habitats from overuse by cattle,” Knapp says. The resulting plan addressed the Leshes’ top priority of providing reliable water for grazing rotation and included conservation objectives like improving plant density and overall forage production, decreasing areas of soil erosion created decades earlier from livestock crowding in creek bottoms, and maintaining and enhancing habitat for sage-grouse, mule deer, and pronghorn.

The plan also called for removing 5.5 miles of woven mesh fencing, a hazard for sage-grouse and other wildlife. The old fencing was replaced with four-strand barbed wire outfitted with plastic reflectors, each the size of a playing card, clipped to the top strand several yards apart. Sage-grouse often die after colliding with wire fences while flying low to and from their breeding grounds, and the reflectors have proved to reduce collisions. The four-strand wildlife-friendly fencing also enables mule deer and pronghorn to slide underneath

the bottom strand, avoiding injury from snagging the top wire while leaping.

The Leshes’ new property came with several wet “mesic” areas vital to sage-grouse chick growth. These low-lying swales gather water that runs off uplands. In late summer, when upland habitats are baked dry, hens lead their chicks to these prairie oases, which are shaded by lush plant growth and filled with insects. The Leshes’ new stock tanks and grazing areas were sited to keep cattle away from these critical habitats as much as possible.

The conservation plan also calls for using rotational grazing. That means cattle are allowed to eat grass for shorter periods in specific areas while other pasture is rested.

After doing rotational grazing for three years, Lesh is sold. “It flat-out works,” he says. “It lets plants grow and build their root systems so they can withstand a lot more of the hot and dry conditions when it doesn’t rain.” He estimates that better grass production and improved access to water from the new piping system add 30 to 50 pounds to each of the

ranch’s yearling cows during the growing season. The enhanced conditions also attract wildlife. “Antelope and mule deer were non-existent on the place when I took it over,” Lesh says. “Now I’ll see 200 to 300 antelope during their migration, and lots of mule deer.”

Lesh says he and his wife were so pleased with the SGI program and the help they received from the NRCS and the Carter County Conservation District—which helps represent ranchers in dealings with federal farm programs—that they entered into a second conservation and grazing agreement program on another ranch unit. “With the first agreement, I had concerns about how big of an anchor they were going to tie around my neck in terms of what I could and couldn’t do,” he says. “But I quickly found out that wasn’t the case at all.”

And that’s what Lesh told neighboring ranchers who asked him how the SGI might share costs for wells, fencing, piping, stock tanks, and other infrastructure to help cattle and sage-grouse on their operations. To date, eight years after the Leshes broke the ice,

dozens of Carter County landowners have entered into 49 SGI cost-share agreements.

THE MORE, THE BETTER

Foster, the FWP wildlife biologist, says she welcomes every new SGI agreement. “Sage-grouse use a big landscape, with some of our hens making seasonal movements of up to 30 miles between summer and winter ranges,” she says. “The more well-managed grazing we have out there, the better.”

Foster notes that FWP strongly supports maintaining well-managed “working lands” as essential for wildlife conservation. “Many of our wildlife management areas statewide allow managed grazing for the same reasons it’s supported by the SGI,” she says.

But even in landscapes where cattle and sage-grouse coexist, the birds face growing

threats. Biologists estimate sage-grouse populations by counting the birds each spring on their breeding leks. When numbers drop, the cause could be habitat degradation or human-caused disturbances many miles away. Scientists have found that bird numbers dwindle in areas where a new oil rig, cell phone tower, or wind turbine goes up within five miles of a breeding lek. The causes aren’t fully understood, but biologists suspect that the new structures provide perching sites for golden eagles and the truck traffic on roads bothers sage-grouse and disrupts breeding.

Foster says a region of heavy energy development in Fallon County northwest of Baker still retains a few leks where male sage-grouse dance next to pump jacks or main roads. “I can’t tell you how many times I’ve been told they’re living proof that oil-

field development doesn’t bother sage-grouse,” Foster says. “But when you look at lek counts for that area, there’s a long-term downward trend.” That’s worrisome, especially as energy development continues to grow across eastern Montana.

Yet meanwhile, sage-grouse continue to thrive in Carter County, next door. There and elsewhere in Montana, the SGI and other programs are helping forward-thinking stockgrowers sustain both cattle and healthy sage-grouse populations. “Key to all this is that these ranchers are managing their lands for the long-term,” Foster says. “These are well-established families that have been through generations of drought and learned how to care for their land. Over and over I hear ranchers say they’ve got to leave some grass. It’s a wonderful ethic.”

Cooperation is key to keeping sage-grouse management in state hands

Montana almost lost state management authority for the greater sage-grouse in 2015. The species was being considered for threatened or endangered status under the federal Endangered Species Act. That would have transferred management authority to the federal government. It never happened, however, thanks in large part to the emergence of a strong conservation partnership focused on sage-grouse that began long before the threat of federal listing.

For years Montana agencies, organizations, industries, and farming and ranching groups have worked together to create programs, funding, and policies that improve private land stewardship and help maintain sagebrush ecosystems and sage-grouse populations. The work got an extra boost in 2013 when Governor Steve Bullock launched the Montana Sage-Grouse Habitat Conservation Program, which uses state funds to improve habitat and reduce habitat loss on projects requiring state permits.

Montana Fish, Wildlife & Parks provides state leadership on sage-grouse population monitoring, research, and strategic habitat conservation. The Bureau of Land Management helps with monitoring and research projects and by maintaining sage-grouse habitat on the agency’s federal lands through its land-use decisions. The U.S. Fish & Wildlife Service works closely with the Natural Resources Conservation Service and other partners to provide tools to private landowners interested in conserving sage-grouse habitat. The Nature Conservancy helps enroll private landowners in federal Candidate Conservation Agreements with Assurances, which would protect landowners who enact certain conservation provisions if the sage-grouse were federally listed in the future.

The Montana Association of Conservation Districts helps landowners apply for NRCS programs for sage-grouse and sagebrush rangelands. The Montana Association of Land Trusts, Montana Land Reliance, The Nature Conservancy, and FWP buy conservation easements in sage-grouse country. Local producer groups, such as the Rancher’s Stewardship Alliance and Winnett ACES (Agricultural Community Enhancement and Sustainability), support sustainable range management practices and

local economies in sagebrush regions. Energy and utility companies work with the Montana Sage-Grouse Habitat Conservation Program to reduce and compensate for damage to sage-grouse habitat caused by energy development.

“This collective approach makes Montana’s sage-grouse conservation a model for western states,” says Ken McDonald, head of the FWP Wildlife Division. “But we need to keep working together to show that we can take care of sage-grouse while allowing for sustainable economic development. If we don’t, we could someday see the bird listed under the Endangered Species Act.”

—Catherine Wightman, FWP Wildlife Habitat Program and federal Farm Bill coordinator



CLOCKWISE FROM TOP LEFT: NOPPADOL PAOTHONG; ELIZA WILEY; SHUTTERSTOCK; ELIZA WILEY

NOPPADOL PAOTHONG